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REMARKS

This Amendment modifies the Request for Continued Examination (RCE) filed herewith.

Applicants appreciate the Office's review of the present application. In response to the final Office Action, the cited references have been reviewed, and the rejections and objections made to the claims by the Examiner have been considered. The claims presently on file in the present application are believed to be patentably distinguishable over the cited references, and therefore allowance of these claims is earnestly solicited.

In order to render the claims more clear and definite, and to emphasize the patentable novelty thereof, claims 5, 20, and 25 have been amended, claims 6, 11, and 31 have been cancelled without prejudice, and new claims 46-50 have been added. Support for any claim amendments and new claims is found in the specification, claims, and drawings as originally filed, and no new matter has been added. Accordingly, all claims presently on file in the subject application are in condition for immediate allowance, and such action is respectfully requested.

Rejections

Rejection Under 35USC §103

Claims 2, 4-5, 8, 10, 20, 23-25, and 34-38 have been rejected under 35 USC §103(a), as being unpatentable over U.S. patent application publication 2002/0191517 by Honda et al. ("Honda") in view of U.S. patent 6,145,368 to Klein ("Klein"). Applicants respectfully traverse the rejection and request reconsideration.

As to a rejection under §103(a), the U.S. Patent and Trademark Office ("USPTO") has the burden under §103 to establish a *prima facie* case of obviousness by showing some objective teaching in the prior art or generally available knowledge of one of ordinary skill in the art that would lead that individual to the claimed invention. See *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). The Manual of Patent Examining Procedure (MPEP) section 2143

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discusses the requirements of a *prima facie* case for obviousness. That section provides as follows:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and reasonable expectation of success must be found in the prior art, and not based on applicant's disclosure.

The rejection of independent claim 5, and its dependent claims 2, 4, 8, 10, and 34-38, is respectfully traversed for at least the following reasons. Claim 5 recites:

"5. (Currently amended) An optical disk, comprising:
a label region on the optical disk comprising a writable material;
substantially identical disk speed features, disposed on the disk in a first annular ring at a first radial position and located to be readable when writing the label region, to convey disk speed data; and
disk angular orientation features different from the disk speed features, disposed on the disk in a second annular ring at a second radial position different from the first radial position and located to be readable when writing to the label region, to convey disk angular orientation data, wherein at least some of the disk angular orientation features and at least some of the disk speed features have an overlapping angular position, and wherein the first annular ring abuts the second annular ring, and wherein the annular rings are proximate a central hub of the disk."
(emphasis added)

The Office has not established a *prima facie* case of obviousness at least because the applied references do not teach or suggest all of Applicant's claim limitations.

With regard to the annular rings of features on the optical disk, the Office admits that the Honda reference does not disclose annular rings (Final Office Action, p.5), and that "Honda in view of Klein does not disclose: 'wherein the first annular ring abuts the second annular ring'" (Final Office Action, p.6).

In addition, claim 5 has been amended to recite that "the annular rings are proximate a

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central hub of the disk". Neither the Honda or Klein references, alone or in combination, disclose such a limitation of the annular rings. More particularly, in the Klein reference, the annular ring of data channel 104 and the annular ring of index channel 102 (Fig. 2) are not proximate the central hub of the disk, but conversely are proximate the outer edge of the disk.

Therefore, for the reasons discussed herein, the applied references do not teach or suggest all of Applicants' claim limitations, and thus the rejection is improper at least for this reason and should be withdrawn.

Furthermore, the Office has not established a *prima facie* case of obviousness at least because there is no suggestion or motivation or articulated reason with some rational underpinning to modify the reference or to combine reference teachings.

With regard to the failure of the Honda and Klein references to disclose that the first annular ring abuts the second annular ring, the Office takes the position that "shifting the position of the annular rings of Honda in view of Klein so that they abut would have been obvious" because it "does not modify the operation of the invention", and that "applicant's specification does not disclose any reason to have the rings abut one another" (Final Office Action, p.6-7). Applicant respectfully disagrees.

First, shifting the position of the angular rings of the Klein reference from a separated position to an abutting position modifies the operation of the invention by changing the size of the contiguous area of the label region on the optical disk. In the present invention, an optical disk 100, such as a CD or DVD, has a label region 106 coated with a material writeable by an optical pick-up unit of a disk drive. "An image 108, such as text or graphics, may be applied to the label region 106 during the labeling process. The labeling process can include reading features 110, which ... provide information on disk speed ... and disk angular orientation" (Specification, para. [0022]-[0023]). It is well-known that CDs and DVDs can store large numbers of files, such as music, images, documents, and/or programs, and typically have labels that identify the particular contents. However, the surface area of optical disks is of limited size.

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Inherently, therefore, to provide sufficient room to be able to more fully identify the contents of the disk, it is highly desirable to maximize the contiguous area of the label region 106. The larger the label region 106, the more text and/or graphics information can be imaged to it. Abutting the first and second angular rings, as recited by claim 5, advantageously maximizes the contiguous area of the label region 106. Conversely, if the two annular rings are separated, as taught by the Klein reference (Fig. 2), the label region would be split in two, and each region would disadvantageously be smaller than if the two annular rings abutted. This is illustrated in Fig. 2 of the Klein reference, where one portion of the label region is between the disk hub and index channel 102, while another portion of the label region is between index channel 102 and data channel 104. This further disadvantageously creates a visual discontinuity with reduced quality of the labeled image if markings attempt to span the gap.

Second, changing the radial position of the angular rings of the Klein reference from adjacent the outer rim of the disk to proximate the hub of the disk would also modify the operation of the invention by changing the total surface area of the label region on the optical disk. Positioning the annular rings proximate the hub of the optical disk advantageously increases the total area of the label region, thus providing more room for identifying disk contents, because the smaller circumference of the rings reduces the surface area occupied by the rings. Conversely, if the annular rings are disposed adjacent to the outer rim of the disk, as taught by the Klein reference (Fig. 2), the total area of the label region is disadvantageously reduced, because the larger circumference of the rings increases the surface area occupied by the rings.

Third, the Office has provided no motivation or reason to abut the rings of the Klein reference. "The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims ... is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device." *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984). It

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appears as if the only reason to abut the rings is that this is the configuration claimed by Applicant. Such is impermissible hindsight.

Fourth, modifying the Klein reference to reposition the angular rings from adjacent the outer rim of the disk to proximate the hub of the disk would result in an inoperative device. It is noted that the rotatable disk 100 of the rotary encoder of the Klein reference, used in a mouse 310 or a joystick 320, would necessarily be much smaller in diameter than a CD or a DVD disk. Thus the rings of the data channel 104 and the index channel 102 of the Klein reference are positioned near the outer edge, not the inner hub, of the disk 100 in order to provide sufficient resolution and accuracy of the angular position measurements. The data channel 104 has "a large number of openings (pulses) specifying incremental angular displacements of disk 100" (col. 1, lines 53-55). If the ring of data channel 104 were to be placed closer to the hub, where the circumference of the ring would be smaller, the number of openings in the ring would be reduced. A fewer number of openings in the 360 degree span of the disk would disadvantageously diminish the resolution and accuracy of angular position measurements. As a result, the Klein encoder would be rendered inoperative by such a modification for its intended purpose of providing accurate angular position information for a mouse, joystick, or similar devices. "If references taken in combination would produce a 'seemingly inoperative device', we have held that such references teach away from the combination and thus cannot serve as predicates for a prima facie case of obviousness" *McGinley v. Franklin Sports Inc.*, 60 USPQ2d 1001, 101 (Fed. Cir. 2001). The reduced resolution and accuracy of the mouse/joystick would result in "jumpy" movement of the cursor on the computer screen which would be unacceptable to users and could prevent the cursor from being placed at desired graphical locations on the computer screen.

Fifth, because placing the annular rings of Klein proximate the hub would result in an inoperative device, the Klein reference teaches away from positioning the annular rings proximate the central hub of the disk in an attempt to achieve Applicant's invention.

Applicants respectfully traverse the Office's assertion that it would have been obvious to

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a person of ordinary skill in the art at the time the invention was made to include the features recited in the claims of Applicants' invention. Such could be possible only in hindsight and in light of Applicants' teachings. Therefore, the rejection is improper at least for this reason and should be withdrawn.

Independent claims 20 and 25 have each been amended to recite limitations similar to those of claim 5, discussed above. Therefore, for similar reasons as explained heretofore with regard to claim 5, the features of the present invention are not taught or suggested by the cited references in that the features of the first annular ring abutting the second annular ring, and the annular rings proximate a central hub of the disk, are neither taught nor suggested by the Honda reference in combination with the Klein reference. Applicants respectfully traverse the Office's assertion that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the features recited in the claims of Applicants' invention. Such could be possible only in hindsight and in light of Applicants' teachings. Therefore, the rejection of independent claims 20 and 25, and dependent claims 23-24, is improper at least for that reason and should be withdrawn.

Claims 3, 7, 12, 14-15, 17, 22, 33, 39-41, and 43-45 have been rejected under 35 USC §103 (a), as being unpatentable over U.S. patent application publication 2002/0191517 by Honda et al. ("Honda") in view of U.S. patent 6,145,368 to Klein ("Klein"), and further in view of U.S. patent 5,107,107 to Osborne ("Osborne"). Applicants respectfully traverse the rejection and request reconsideration at least based on the dependence of these claims on one of independent claims 5, 20, and 25, whose reasons for allowability over the Honda and Klein references have been discussed heretofore and against which the Osborne reference has not been cited. In addition, the stated motivation to combine the Osborne reference is improper in that it is merely a conclusory statement of generalized advantages that impermissibly uses the Applicants' disclosure as a blueprint or in hindsight for the rejection. Therefore, the rejection is

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improper at least for these reasons and should be withdrawn.

Claim 9 has been rejected under 35 USC §103 (a), as being unpatentable over U.S. patent application publication 2002/0191517 by Honda et al. ("Honda") in view of U.S. patent 6,145,368 to Klein ("Klein"), further in view of U.S. patent 5,107,107 to Osborne ("Osborne"), and further in view of U.S. patent 6,109,324 to Bugner et al. ("Bugner"). Applicants respectfully traverse the rejection and request reconsideration at least based on the dependence of this claim on independent claim 5, whose reasons for allowability over the Honda and Klein references have been discussed heretofore and against which the Osborne and Bugner references have not been cited. In addition, the stated motivation to combine the Bugner reference is improper in that it is merely a conclusory statement of generalized advantages that impermissibly uses the Applicants' disclosure as a blueprint or in hindsight for the rejection. Therefore, the rejection is improper at least for these reasons and should be withdrawn.

Claims 13, 21, and 42 have been rejected under 35 USC §103 (a), as being unpatentable over U.S. patent application publication 2002/0191517 by Honda et al. ("Honda") in view of U.S. patent 6,145,368 to Klein ("Klein"), further in view of U.S. patent 5,107,107 to Osborne ("Osborne"), and further in view of U.S. patent 5,670,947 to Nagashima ("Nagashima"). Applicants respectfully traverse the rejection and request reconsideration at least based on the dependence of these claims on one of independent claims 5, 20, and 25, whose reasons for allowability over the Honda and Klein references have been discussed heretofore and against which the Osborne and Nagashima references have not been cited. In addition, the stated motivation to combine the Nagashima reference is improper in that it is merely a conclusory statement of generalized advantages that impermissibly uses the Applicants' disclosure as a blueprint or in hindsight for the rejection. Therefore, the rejection is improper at least for these reasons and should be withdrawn.

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Prospective Rejection Under 35USC §103 of New Claims 46-48

Applicant believes that any prospective rejection of newly added dependent claims 46-48 based on the combined Honda and Klein references would also be improper. For example, claim 46 recites:

“46. (New) The optical disk of claim 5, wherein the first radial position is nearer the central hub of the disk than the second radial position.” (emphasis added)

The first annular ring of disk speed features is located at the first radial position, while the second annular ring of disk angular orientation features is located at the second radial position. Thus, claim 46 specifies that the ring of disk speed features is inside the ring of disk angular orientation features.

The Klein reference, conversely, specifies that the ring of disk speed features (i.e. data channel 104) is outside the ring of angular orientation features (i.e. index channel 102).

Furthermore, it would be improper for the Office to take the position that shifting the relative position of the annular rings of Honda in view of Klein, such that the ring of disk speed features (i.e. data channel 104) is inside the ring of disk angular orientation features (i.e. index channel 102), would be obvious.

Applicant's specification discloses that the label region 106 of optical disk 100 is writable by the OPU (para. [0022]). However, the OPU can only be operated within a certain radial range, which includes a minimum radial distance from the hub (para. [0035]). In order to read any disk features that are placed too close to the hub for the OPU to read, however, the encoder 406 can be used (para. [0035]). Thus, placing the disk speed features in the inner ring, and adjusting the radial position of the abutting rings such that the disk speed features are closer to the hub of the disk than the radial range in which the OPU can operate, advantageously increases the total area of the label region 106 by removing the disk speed features from the label region 106, providing more labeling space for identifying disk contents, etc., since the label region 106 is not occupied by the ring of disk speed features. Therefore, the invention works better, by providing more labeling area, when the radial positions for the annular rings are as

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recited in claim 46.

Conclusion

Attorney for Applicants has reviewed each one of the cited references made of record and not relied upon, and believes that the claims presently on file in the subject application patentably distinguish thereover, either taken alone or in combination with one another.

Therefore, all claims presently on file in the subject application are in condition for immediate allowance, and such action is respectfully requested. If it is felt for any reason that direct communication with Applicant's attorney would serve to advance prosecution of this case to finality, the Examiner is invited to call the undersigned Robert C. Sismilich, Esq. at the below-listed telephone number.

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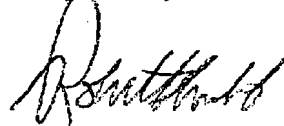
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Respectfully submitted,



Robert C. Sismilich
Reg. No. 41,314
Attorney for Applicant(s)
Telephone: (941) 677-6015

Date: 10/31/07

Hewlett-Packard Company
Intellectual Property Administration
P. O. Box 272400
Fort Collins, CO 80527-2400